



## **Desk research**

### **Romania**

#### **1. Education and neuroscience**

The accelerated development of neuroscience allowed research directions focused on finding teaching methods that stimulate intellectual potential. The study of brain functioning and the understanding of the neurocerebral mechanisms of some learning processes can lead to the development of educational practices (Frith et al., 2011).

Brain activity analysis techniques have captured the changes induced by the learning process, thus demonstrating the effect of “brain remodelling” that occurs during the acquisition of new skills (Dehaene & Cohen, 2007).

Also, biological mechanisms have been discovered that underlie learning, such as brain plasticity, through new techniques for investigating brain areas. It is a characteristic of the brain, present throughout life, which underlies the acquisition of skills and their loss if not used, starting from the principle “what is not used is lost” (Gavril, 2019).

The progress of neuroscience has made it possible to obtain functional neuroimaging that demonstrates the effect of using certain cognitive strategies in facilitating the acquisition of specific skills, such as, for example, learning to read. By understanding neurocognitive development, on which the acquisition of the primary skills taught in school (e.g. literacy, the acquisition of the concept of number and mathematical calculation skills) is based, solutions have been found to remedy the difficulties present in complex and modern learning situations ( Neacșu, 2019).

Along with neuropsychology, neurodidactics integrates information from cognitive psychology with strategies and methods used in education, in order to optimise learning and/or therapeutic processes, all contributing to the development of educational neurosciences (Gavril, 2019; Neacșu, 2019):



- Neurosciences bring explanations about the cognitive mechanisms of the psyche, about the functioning of the nervous system, helping to a better understanding of the processes involved in learning;
- Cognitive psychology provides information about how information is processed in the individual cognitive system;
- Education sciences provide information about the optimal ways to learn and acquire specific skills.

Education can generate significant changes in brain organisation (Dehaene et al., 2010). It is believed that it is the one that has led to the increase of IQ over the last decades (Nisbett et al., 2012). On the other hand, educational failure, especially in developing basic skills (writing/reading / mathematical calculation), has an increased risk of social marginalisation and poverty (Gavril, 2019).

Knowing the causes of learning difficulties, reconceptualising teaching methods from learning mechanisms, and analysing the motivational aspects of learning is fundamental to learning neuroscience. Furthermore, the information discovered in this field will have a remarkable impact on the teaching activity of teachers, which is why they must have such knowledge.

## **2. Learning difficulties/ disorders**

Legislation and good practices regarding learning difficulties differ from one country to another, and the differences are noticeable, starting with how they are defined. Involving an interdisciplinary approach from a theoretical and practical point of view, learning difficulties were analysed from both a clinical and educational perspective.

From an educational perspective, learning difficulties are a disability. Instead, in the clinical approach, learning difficulties are considered a disorder (learning disorders being the concept that corresponds to the medical model).

In many countries, people with learning disabilities are considered people with disabilities, giving them access to many benefits from the state. Therefore, the type of intervention depends on how they are defined. It is important to provide children with neuropsychological diagnosis and intervention; the main objective is to recover delays and approach the typical development.



Although in many papers, studies, official documents the distinction between learning difficulties and learning disorders is not clearly explained, the difference between the two concepts is based on the substantive condition that determines the performance deficit in both cases: the disorder is generated by a development atypical of some brain functions, while the learning difficulty involves a typical development of brain functions, being generated by the presence of other disorders, inadequate teaching methods, etc. (Dyslexia - AUSPELD, 2014; Gavril, 2019).

The specific learning disorder (SLD) is innate (due to an impairment of brain function) and is resistant to both intervention and the process of automation of impaired cognitive function. Being considered a specific learning disorder, it affects only a specific skill (e.g., reading) but does not affect all school skills (DSM-5, 2013; Gavril, 2019).

SLD does NOT occur due to the following factors or conditions:

- Delay in intellectual development
- Affective-emotional disorders (e.g., anxiety, depression)
- Prolonged absence from school
- Low socioeconomic status
- Lack of motivation for learning

Learning difficulties may occur at some point during schooling and can be remedied through specific interventions. The affected function can be automated, even if it requires sustained efforts compared to the class average. They have a pervasive character, manifesting themselves in most school-type skills. They occur either due to environmental factors (cultural, social or educational) or a delay in intellectual development.

The differential diagnosis is based on a neuropsychological assessment, which determines whether there is a deviation from the norm or a delay in development.

The diagnosis of a specific learning disorder is inevitable if the performance of the affected function (e.g., reading speed in suspected cases of dyslexia) is at least 2 standard deviations below the characteristic average of children with the same level of schooling (DSM-5, 2013).



Based on the studies and statistics analysed, Lorana Gavril (2019) concludes that, if in a class with 25 students, about 5 of them have difficulties acquiring skills specific to a discipline, they represent a percentage of 20% of the entire class. Statistics provided by other European countries showed that students with SLD in the school population do not exceed 4-5%. The difference that occurs, namely those children who do not suffer from a disorder, but have poor school results, can be explained by a delay in intellectual development, inadequate teaching methods or the presence of other factors that impede the child's progress.

Identifying the causes of the difficulty is necessary for determining the correct type of intervention, and the objectives pursued.

### **3. Interventions during the school period**

At the international level, there is a multitude of approaches regarding the intervention to improve learning difficulties, from the perspective (Gavril, 2019):

- Diagnosis (specialists with various skills, different diagnostic tools);
- Types of intervention available and settlement of their costs;
- Inter-institutional relations (existence of specialised centres and collaboration of these centres with school institutions);
- Specialists responsible for educational intervention;
- The age at which the diagnosis is made and support is provided. Some countries recognise learning difficulties only at the primary school level, where children are assessed and offered support throughout pre-university education, countries where support extends to university level, countries where support extends to professional life.

Intervention in the case of children with learning difficulties must take into account (Bartók, 2017; Gavril, 2019;):

- Peculiarities of age, neurofunctional development and brain plasticity;
- The child's living conditions;
- The child's level of education (class attended);
- Level of severity of the disorder;
- Motivation for intervention;
- Time spent at school or preparing for school lessons;



- Increasingly increasing requirements for the assimilation of knowledge and skills as they progress in school cycles;
- The parents' ability to motivate children for school activities and their attitude towards the difficulties that the child manifests in learning.

All these factors influence the recovery of learning difficulties.

Creating a balance between cognitive tasks and emotional-motivational support allows the mobilisation of the necessary resources from a cognitive point of view (attention and working memory) and supports the intellectual effort for the necessary time.

Legislation and specialised studies describe three types of interventions that facilitate the recovery of learning difficulties.

- a. Psychological intervention
- b. Educational intervention
- c. Family intervention

Each of these three types of intervention plays an important role in making significant progress. Communication between school and family is essential to build a supportive and mutually trusting climate. However, at the same time, the intervention of a psychologist is essential to take over the case, to manage the tense situations that arise between the child and those involved in problem management (family, teachers, etc.).

The permanent professional communication between the psychologist and the teacher creates the basis of a two-dimensional intervention: in the cognitive and emotional-motivational plan. This standard support, which must be provided by specialists working with children with learning difficulties, is all the more necessary as the recovery of learning difficulties involves a considerable mental effort on the child, schoolwork being a heavy "burden" to support.

The psychological intervention aims at a series of objectives (Gavril, 2019, pp. 58):

- Clinical and functional diagnosis with the other factors involved (family, school) in order to be aware and accept their difficulties and negative emotional feelings;



- Implementation of programs for the development of cognitive functions where delays have been evaluated;
- Identifying specific learning styles and supporting children in adapting learning to their particularities;
- Psychoeducation of parents and teachers on the issue of learning difficulties and how they influence the mechanisms of learning (abilities and limitations of the child, compensatory methods appropriate to each case).

In the case of educational intervention, the objectives aim at:

- Early screening of children at risk of developing learning difficulties;
- Providing information to parents and psychologists about the difficulties identified;
- The design of a personalised intervention program based on the functional diagnosis;
- Educational intervention by approaching in-class differentiated teaching and assessment methods;
- Constant collaboration with other specialists involved in the intervention on learning difficulties.

Studies on the results of specific interventions do not yet exist in the Romanian population. However, research in the Anglo-Saxon countries (UK, USA and Canada) has estimated that about 20% of children with SLD fully recover from the average population, but 35% of them continue to have difficulty during schooling. In the case of the remaining 45%, the interventions significantly improve their skills, even if the level of development typical for the targeted skill is not reached (Gavril, 2019).

#### **4. Romanian legislation regarding learning difficulties and SLD**



Legislation on learning difficulties differs from country to country. For example, in Romania, the first mentions about children with special educational needs (SEN) appeared in the National Education Law, the provisions referring to inclusive education and how to include children with disabilities in mainstream education.

Law 6/2016 is the first law that specifically refers to children with specific learning disabilities. In addition, the law contains support measures to better adapt to school requirements and prevent school failure or dropout.

Through the methodological norms, the law aims at:

- guaranteeing the right to education of all students identified with learning disabilities
  - favouring the students' school success through didactic support measures, guaranteeing adequate training and promoting the development of the potential of each student
  - reduction of relational and emotional difficulties, secondary to learning disorders
  - adopting forms of verification and evaluation adequate to the formative need of the students
  - training of teachers, support teachers, psychology teachers, speech therapists, school counsellors, as well as the responsibility and awareness of parents in dealing with problems related to learning disorders
  - favouring the early diagnosis of students and establishing rehabilitative teaching paths;
  - increasing communication and collaboration between family, school, county resource centres and educational assistance / Bucharest Center for Educational Resources and Assistance (CJRAE / CMBRAE) and family doctors, during training and formation
  - ensuring equal opportunities for the development of all students' abilities, necessary in the social and professional environment

(Order no. 3142 on the approval of the Methodology for providing the necessary support to students with learning disabilities, published in the Official Monitor of Romania, Part I, no. 117 of February 10, 2017)

Unlike the laws from other countries (for example, Great Britain, the USA and Canada), which provide support measures for people with SLD both during



school and at university and professional level, the Romanian law applies only to students from pre-university education.

The law clearly delimits learning difficulties from learning disabilities.

According to the law, learning disorders, from now on referred to as specific learning disorders (SLD) - *designate a heterogeneous group of disorders that affect the typical process of acquiring school skills (reading, writing and math): dyslexia, dysgraphia (including dysorthography), dyscalculia. This is not a consequence of a lack of learning opportunities or a lack of motivation to learn; it is not the result of an intellectual disability, a liminal intellect, sensory deficit (e.g., hearing, visual, motor), emotional and emotional disorders of a psychiatric nature, other (neuro) developmental disorders (e.g., ASD - autism spectrum disorders, ADHD - attention deficit hyperactivity disorder). It is not caused by any form of brain trauma or acquisition disease. Dyslexia, dysgraphia and dyscalculia may occur in isolation or may be associated. These represent a disorder of biological origin, not being a consequence of the absence of learning opportunities, the existence of disabling conditions or unfavourable learning conditions (Order no. 3142 on approving the Methodology for providing the necessary support to students with learning disabilities, published in the Official Monitor of Romania, Part I, No. 117 of February 10, 2017).*

According to Law 6/2016, learning difficulties designate *a category of special educational needs (SEN) due to the intervention of extrinsic factors (school, family, social) and intrinsic psycho-affective factors. Learning difficulties can be remedied and, most of the time, it is expressed in the form of delays and not of some disturbances of the typical acquisition process. Learning difficulties can also occur secondary to an introductory intellectual level, sensory deficiencies, ADHD, severe emotional disorders, and bilingualism (Order no. 3124 on approving the Methodology for providing the necessary support to students with learning disabilities, published in the Official Monitor of Romania, Part I, No. 117 of February 10, 2017). For the early identification of the risk of developing a learning disorder, the law provides:*

- a compulsory psycho-pedagogical evaluation in the first two years of school;





- a complex evaluation performed by specialists (psychologists/teachers, school counsellors, speech therapists, doctors, etc.) to establish the diagnosis.

During primary school, children should be monitored through annual assessments by teachers. In this regard, the law recommends using classroom observation to identify those children who show signs of atypical development.

As support measures within the school activity, the law provides for curricular adaptation and curricular augmentation.

From the perspective of diagnosis, the law refers to the symptoms contained in the DSM-5 and ICD-10 textbooks, specifying the age marks:

- in the case of reading and writing disorders, the diagnosis cannot be conclusive before the second grade because literacy is completed by the end of the second grade. This does not preclude taking remedial action if serious gaps have been observed in the first two years of school;
- dyscalculia cannot be diagnosed before the third grade to provide the necessary time for the formation of mathematical calculation automatisms.

The law also provides for differentiated assessments for students with SLD:

- tests and verifications are announced at least 24 hours in advance;
- additional time is provided (30-60 minutes) for the execution of the tests or checks with fewer requirements are provided;
- computerised tests are introduced;
- ensures that the teacher reads aloud the tasks to be performed during the checks. The topics are read one by one, in the order in which the paper is elaborated;
- the use of compensatory instruments is ensured in both written and oral tests;
- oral checks will be provided as alternatives to the written ones (especially in foreign languages);
- in the grading at the oral tests will be taken into account the lexical and expressive abilities of the student;
- depending on the situation, the assessments will be designed in such a way as to limit writing (for example, exercises with space to fill in, tick exercises, unit, etc.);

- the grading/evaluation of the written tests will take into account the content, not the form;
- the use of the pocket/office computer or tables with formulas is ensured.

(Order no. 3144 on the approval of the Methodology for providing the necessary support to students with learning disabilities, published in the Official Monitor of Romania, Part I, no. 117 of February 10, 2017).

The law provides for teacher training courses in continuing education programs to acquire skills for early identification of learning difficulties and the application of appropriate teaching strategies.

In the interest of children, the law provides for the organisation at the level of resource councils and educational assistance of parental counselling departments for parents with children with learning disabilities to ensure communication between school-family-specialists, essential collaboration for diagnosis and intervention during the schooling of students.

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